



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/659,398	.09/11/2000	David W. Jensen	00CR082/KE	5534

7590 10/28/2003

Rockwell Collins Inc
Attention: Kyle Eppeler M/S 124 323
400 Collins Road N E
Cedar Rapids, IA 52498

EXAMINER

BONURA, TIMOTHY M

ART UNIT	PAPER NUMBER
----------	--------------

2184

DATE MAILED: 10/28/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/659,398

Applicant(s)

JENSEN ET AL.

Examiner

Tim Bonura

Art Unit

2184

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 August 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 and 14-20 is/are rejected.
- 7) ☒ Claim(s) 10-13 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hideharu, Japanese Patent Number 57-43255. Regarding claim 1,

- a. Regarding the limitation of a general-purpose microprocessor, Hideharu does disclose that the system has a multiple processor system for processing information.
(English Translation, Page 3 last paragraph)

- b. Regarding the limitation of a monitoring microprocessor, Hideharu does not disclose a monitoring microprocessor with an assurance characteristic as being higher than a performance characteristic. However, Hideharu discloses a system that has a controlling processor capable of restarting a plurality of processor if a monitoring condition indicates that a fault is present. (English Translation, Page 4, first paragraph). The examiner interprets the assurance characteristic as being higher than a performance characteristic to be a processing device that processes more data dealing with quality and control data than the processor device processes application data. Hidehura teaches a control processor that "is set up as a processor for the operation and maintenance controls of other processors." (Page 5 of Hidehura English Translation, top paragraph). It would have been obvious to one of ordinary skill in the art that the control processor of

Hideharu would have a higher characteristic of processing data of operation and maintenance of application processors. Hidehara discloses that it is the responsibility of the control processor to communicate to the application processors that an application processor has broken down and that the control processor is necessary to deliverer these messages. (English Translation, Page 9, 3rd paragraph).

3. Regarding claim 2, Hideharu discloses a system that can change from a functional state to a broken down state. (English Translation, Page 6, 3rd paragraph).

4. Regarding claim 3, Hideharu discloses a system that will read out signals for the doubled processor 10W12 and will detect a state of broken down and generates a signal in response. (English Translation, Page 5, first paragraph).

5. Regarding claim 4, Hideharu discloses a system wherein the response signal is a reset signal. (English Translation, Page 6, 3rd paragraph).

6. Claims 5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hideharu as applied to claims 1 above, and further in view of McElreath, U.S. Patent Number 6,401,013. Hideharu teaches of a system with a doubled processor 10W12 and a control process that can detect the state of the doubled processor 10W12 and generate a fault signal for resetting of the doubled processor 10W12 if there is an error in that processor. Hideharu does not teach that the system must be certified by a government agency. (The examiner determined the FAA is the US agency for the certification). McElreath discloses a system wherein it is stated that all on-board components for aircraft must meet FAA regulations. (Lines 23-27 and 35-37 of Column 3). It would have been obvious to one of ordinary skill in the art at the time of the invention to obtain

Art Unit: 2184

FAA certification for any equipment being used on an aircraft for flight control because the FAA requires all on-board equipment, for an aircraft, to meet FAA standards.

7. Regarding claim 6, see claim 5.

8. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hideharu as applied to claims 1 above, and further in view of Johnson, U.S. Patent Number 6,456,928.

Regarding claim 7, Hideharu teaches of a system with a doubled processor 10W12 and a control process that can detect the state of the doubled processor 10W12 and generate a fault signal for resetting of the doubled processor 10W12 if there is an error in that processor. (Lines 12-21 of the Abstract). Hideharu does not teach comparing a value to a predetermined limitation of an aircraft. Johnson discloses a system that will compare a calculated value to a previous value. (Lines 23-30 of Column 2, Lines 62-64 of Column 7, Figure 5 items 302-308, and the Abstract Lines 3-5). It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the comparison of Johnson with the error detection of Hideharu because, failure of a processor or aircraft failure can be determined before the fault cause a malfunction to flight control. (Lines 35-40 of Column 1). Johnson discloses that predicting failure in an engine would be useful to avoid a deviation, from a signals acceptable range, by alerting a human operator of the future deviation that could be used for preventative maintenance. (Lines 54-67 of Column 2).

9. Regarding claim 8, Johnson discloses a system with means to have a limitation on rate change. (Lines 50-60 of Column 7).

10. Regarding claim 9, Johnson discloses a system where the values are in a table. (Lines 63-66 of Column 4).

Response to Arguments

1. Regarding claim 1, Applicant's arguments filed 8/8/2003 have been fully considered but they are not persuasive.
2. The examiner received a translated version of the Japan document cited in the first Office Action (Paper Number 2). The translated version was received well after the first action was sent to applicant. Complete translation is incorporated into this rejection.
3. Regarding the arguments for claim 1:
 - a. Regarding the argument that Hideharu does not teach "having an assurance characteristic which is higher and having a performance characteristic which is lower".
The examiner translates the assurance characteristic being higher than a normal processor to be a processing device that processes more data dealing with operation and maintenance data than the processor device processes application data. Hidehura teaches a control processor that "is set up as a processor for the operation and maintenance controls of other processors." (Page 5 of Hidehura English Translation, top paragraph).
The examiner contends that Hidehura reads on the claims as currently stated because Hidehura teaches a control processor which will process break down signal and establish duplexed processors if a processor breaks down.
4. Regarding claims 14 and 18, Applicant's arguments filed 8/8/2003 have been fully considered but they are persuasive. Rejections have been removed and claims are in condition for allowance.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Tim Bonura**. The examiner can normally be reached on **Mon-Fri: 7:30-5:00, every other Friday off**. The examiner can be reached at: **703-305-7762**.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Rob Beausoliel** can be reached on **703-305-9713**. The fax phone numbers for the organization where this application or proceeding is assigned are:

703-872-9306 for all patent application related communications

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the **receptionist** whose telephone number is: **703-305-3900**.


Responses should be mailed to:

Commissioner of Patents and Trademarks

Washington, DC 20231

Tim Bonura
Examiner
Art Unit 2184

tmb
October 17, 2003


ROBERT BEAUSOLIEL
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100